In Vitro and Animal Models for Emerging Infectious Diseases and Biodefense

The primary objective of the National Institute of Allergy and Infectious Diseases (NIAID) In Vitro and Animal Models for Emerging Infectious Diseases and Biodefense Program is to provide targeted screening of potential therapeutic and prevention modalities for emerging infectious agents and bioterrorism pathogens using in vitro, small animal, and non-human primate models to test safety and efficacy. In vitro and animal models are needed to ensure development and testing of vaccines, therapeutics, and diagnostics, and preclinical safety testing will be required to speed the development of new generation products.

A number of promising candidate therapies and vaccines have been identified for bioterrorism organisms/diseases, however, development has been delayed because of the lack of validated animal models in which to test these candidates. This program will provide a range of developmental resources to bring new therapies and preventive measures from the laboratory to initial clinical testing in humans. Currently there are six parts of the program, all contributing to the overall development effort:

- in vitro screens for antimicrobial activity;
- clinical isolate panels for selected bacterial pathogens;
- small animal models for selected pathogens, including GLP studies;
- non-human primate models for selected pathogens, including GLP studies;
- safety and immunogenicity testing for vaccines; and
- safety/toxicology and pharmacology testing for therapeutics.

NIAID anticipates that this resource will be available on the Internet in late 2004 or early 2005. Please check the NIAID biodefense website located at www.niaid.nih.gov/biodefense for updates and future information.

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